

Title (en)  
WIRELESS COMMUNICATION DEVICE AND CORRESPONDING APPARATUS, METHOD AND COMPUTER PROGRAM

Title (de)  
DRAHTLOSKOMMUNIKATIONSVORRICHTUNG UND ZUGEHÖRIGE EINRICHTUNG, VERFAHREN UND COMPUTERPROGRAMM

Title (fr)  
DISPOSITIF DE COMMUNICATION SANS FIL ET APPAREIL CORRESPONDANT, PROCÉDÉ ET PROGRAMME INFORMATIQUE

Publication  
**EP 3809655 A1 20210421 (EN)**

Application  
**EP 19202974 A 20191014**

Priority  
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Abstract (en)  
Embodiments of the present disclosure relate to wireless communication devices, systems comprising wireless communication devices, and to an apparatus, a method and a computer program for a wireless communication device. The apparatus comprises a transceiver module for transmitting and receiving wireless transmissions. The apparatus comprises a processing module that is configured to control the transceiver module. The processing module is configured to communicate with a further wireless communication device via the transceiver module. The communication with the further wireless communication device is based on a transmission of data frames between the wireless communication device and the further wireless communication device. Each data frame is based on a two-dimensional grid in a time-frequency plane having a time dimension resolution and a frequency dimension resolution. The processing module is configured to select a communication mode from a plurality of communication modes for the communication between the wireless communication device and the wireless communication device. The communication mode defines a combination of a frequency dimension resolution and a time dimension resolution of the two-dimensional grid in the time-frequency plane. The processing module is configured to initially select a default communication mode of the plurality of the plurality of communication modes for the communication between the wireless communication device and the further wireless communication device.

IPC 8 full level  
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**H04B 1/0475** (2013.01 - EP US); **H04B 7/0857** (2013.01 - US); **H04B 17/345** (2015.01 - EP); **H04B 17/373** (2015.01 - EP); **H04B 17/382** (2015.01 - US); **H04L 5/0005** (2013.01 - US); **H04L 5/0007** (2013.01 - CN KR); **H04L 25/03834** (2013.01 - EP KR); **H04L 27/2601** (2013.01 - CN); **H04L 27/2602** (2013.01 - EP); **H04L 27/2604** (2013.01 - KR); **H04L 27/2639** (2013.01 - EP); **H04L 27/2669** (2013.01 - KR); **H04L 27/26885** (2021.01 - EP); **H04L 5/0007** (2013.01 - EP)

Citation (applicant)  
• US 9444514 B2 20160913 - HADANI RONNY [US], et al  
• Z. PRUSA ET AL., THE LARGE TIME-FREQUENCY ANALYSIS TOOLBOX 2.0  
• S. JAECKEL ET AL., QUADRIGA: A 3-D MULTI-CELL CHANNEL MODEL WITH TIME EVOLUTION FOR ENABLING VIRTUAL FIELD TRIALS  
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Citation (search report)  
• [I] US 2015117395 A1 20150430 - HADANI RONNY [US], et al  
• [A] US 2017078054 A1 20170316 - HADANI RONNY [US], et al  
• [A] WO 2017147439 A1 20170831 - COHERE TECH INC [US]  
• [A] WO 0158109 A1 20010809 - NOKIA NETWORKS OY [FI], et al

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